DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-015958
Date Inspected: 30-Jul-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name:	See Below		**CWI Present:**	☑ Yes	☐ No
Inspected CWI report:	☐ Yes	☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No ☐ N/A
Electrode to specification:	☑ Yes	☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No ☐ N/A
Qualified Welders:	☑ Yes	☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No ☐ N/A
Approved Drawings:	☑ Yes	☐ No ☐ N/A	**Approved WPS:**	☑ Yes	☐ No ☐ N/A
			Delayed / Cancelled:	☐ Yes	☑ No ☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girders

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

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A). Field Splice W1/W2
B). Field Splice W4/W5
C). Field Splice W5/W6

A). Field Splice W1/W2

The QAI observed the continued excavation of the unacceptable discontinuities discovered during the Ultrasonic Testing (UT) of bottom plate field splice identified as 1W-2W-D1. The excavations were performed by Ken Chappell and the welding was performed by Fred Kaddu ID-2188. The machining of the excavations was performed utilizing a high cycle grinder to remove the defects. At the conclusion of the excavations the QC technician Tom Pasqualone performed a Magnetic Particle Test (MPT) of the excavated areas and no rejectable indications were noted. The application and evaluation of the MPT appeared to comply with the MPT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The repair welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process and the 3.2mm electrode as per the Welding Procedure Specification (WPS) identified as ABF-WPS-1000 Repair Rev. 2. The WPS was also used by the QC inspector, Mr. Pasqualone, as a reference to

monitor and verify the Direct Current welding parameters which were noted as 141 amps. The welding was performed in the flat (1G) position with the work approximately in the horizontal plane and the weld metal deposited from the upper side. The minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius was monitored and maintained by the QC inspector during the repair welding.

B). Field Splice W4/W5

The QAI observed the welder James Zhen ID-6001perform the repair welding of the areas marked as UT rejects on the Complete Joint Penetration (CJP) groove welds identified as WN: 4W-5W-F1. Also at the conclusion of the excavations the QC inspector and technician performed the Magnetic Particle Test (MPT) of the excavated areas and no rejectable indications were noted. The application and evaluation of the MPT appeared to comply with the MPT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The repair welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) identified as ABF-WPS-1000 Repair Rev. 2. The WPS was also used by the QC inspector as a reference to monitor the in process welding and verify the Direct Current welding parameters which were verified by the QAI as 123 amps. The welding was performed in the vertical position (3G) with the work positioned approximately in the vertical plane with the groove approximately vertical and the weld progression up.

C). Field Splice W5/W6

The QAI observed the removal of the backing bar performed by the welder Mike Maday on the "B" face of the single-v-groove weld identified as Weld Number (WN): 5W-6W-D. The back gouging was performed utilizing the plasma arc cutting method.

T1 Tower

The QAI observed the QC technician Mike Johnson perform the Magnetic Particle Testing (MPT) on the base plate of the T1 Tower identified as the south segment. The area tested was where a temporary tack weld was placed on the edge face of the base plate. This area was machined flush, smooth and to a bright metal. The machining was performed utilizing a 4" high cycle grinder. At the conclusion of the testing no rejectable indications were noted by the QC inspector. See Summary of Conversations in regards to this testing.

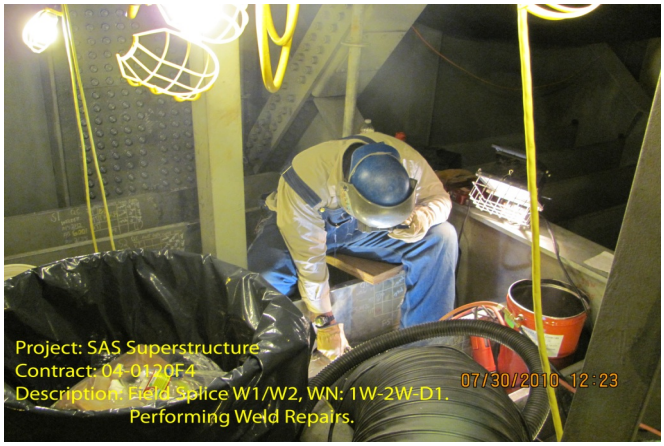
QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW process appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

The digital photographs below illustrate the work observed during this scheduled shift.



Summary of Conversations:

There were general conversations with Quality Control Inspector Mike Johnson at the start of the shift regarding the location of American Bridge/Fluor welding personnel and inspection/ N.D.E. testing scheduled for this shift.

At approximately 1100 Quality Control Manager, Chuck Kanapicki, verbally notified the QAI that Mike Johnson was scheduled to perform a Magnetic Particle Test (MPT) of area where a tack weld had been placed. Mr. Kanapicki also informed the QAI that he had contacted William Levell, via cell phone, and left a message regarding this work.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer